

Application No.: 10/559,646
Response dated: February 23, 2009
Response to Office Action of November 21, 2008

RECEIVED
CENTRAL FAX CENTER

FEB 23 2009

Amendments to the Claims:

Listing of Claims. This listing replaces all prior listing of claims.

Claims 1- 35 (Cancelled)

Claims 36 – 45 (Withdrawn)

46. (Currently Amended) A film forming binder polymer, suitable for use in an architectural coating composition, wherein the binder polymer is chosen from the group consisting of:
 - a) acrylic polymers of alkyl esters of unsaturated carboxylic acids,
 - b) vinyl polymers of mono-vinyl esters, and
 - c) styrenics, and
 - d) the binder polymer is modified by the presence of a mixture which includes a protein and a polysaccharide,
 - e) the mixture is bonded to or is in intimate mixture with the binder polymer, and
 - f) the mixture contains starch in an amount of less than 2 wt% of starch.
47. (Withdrawn) A process of applying a coating composition comprising the step of applying, at ambient temperatures, of the film forming binder polymer of claim 46 as a coating on surfaces associated with buildings or in the coating of furniture or fittings found in or around buildings.
48. (Previously Presented) The binder polymer of Claim 46 wherein the mixture is covalently bonded to the binder polymer.
49. (Previously Presented) The binder polymer of Claim 46 wherein the mixture comprises an adduct of protein bonded to polysaccharide.
50. (Previously Presented) The binder polymer of Claim 49 where the adduct is a proteo-xylan.
51. (Previously Presented) The binder polymer of claim 46 wherein the mixture contains from 2 to 15 wt% of protein.
52. (Previously Presented) The binder polymer of claim 46 wherein the

Application No.: 10/559,646
Response dated: February 23, 2009
Response to Office Action of November 21, 2008

mixture of protein and polysaccharide has been obtained from plant fibre.

53. (Previously Presented) The binder polymer of claim 46 wherein the mixture of protein and polysaccharide has been obtained by the steps comprising:

- a) wet or dry milling corn fibre to extract starch,
- b) slurring the fibre in water at approximately 7 wt% solids and heating to about 90°C, and either
- c) treating the fibre with about 1 wt% calculated on the fibre solids, of a thermally stable alpha amylase enzyme for at least one hour, and
- d) filtering the fibre through a screen or a horizontal decanter to get rid of the solubilised starch and rinsing with water to yield the destarched fibre, or
- e) slurring the fibre in water and cooking in a continuous cooker where it is exposed to steam for a few seconds thereby solubilising the starch, and
- f) rinsing the fibre with water and filtering using a series of screens or a horizontal decanter to yield the destarched fibre, and then
- g) slurring the destarched fibre in water and raising the pH to 11.5 with sodium hydroxide or calcium hydroxide,
- h) raising the temperature to 95°C and adding an aqueous solution of hydrogen peroxide (33%) at about 10 wt% calculated on the solids of the destarched fibre,
- i) maintaining the temperature of the slurry at 95°C for about an hour and filtering to remove the corn fibre residue,
- j) reducing the pH to about 4.5 to form a precipitate, and
- k) filtering this to recover a solution comprising protein and polysaccharide.

54. (Currently Amended) The binder polymer of claim 46 wherein the mixture of protein and polysaccharide is obtained by extraction from a

Application No.: 10/559,646
Response dated: February 23, 2009
Response to Office Action of November 21, 2008

fibre selected from at least one of the plants in the group consisting essentially of maize (corn), wheat, oats, barley, rice, sugar and beet.

55. (Previously Presented) The binder polymer of claim 46 wherein the binder polymer and the protein and polysaccharide mixture form particles having a core shell structure.

56. (Previously Presented) The binder polymer of claim 36 wherein the polymer composition further includes rutile titanium dioxide.